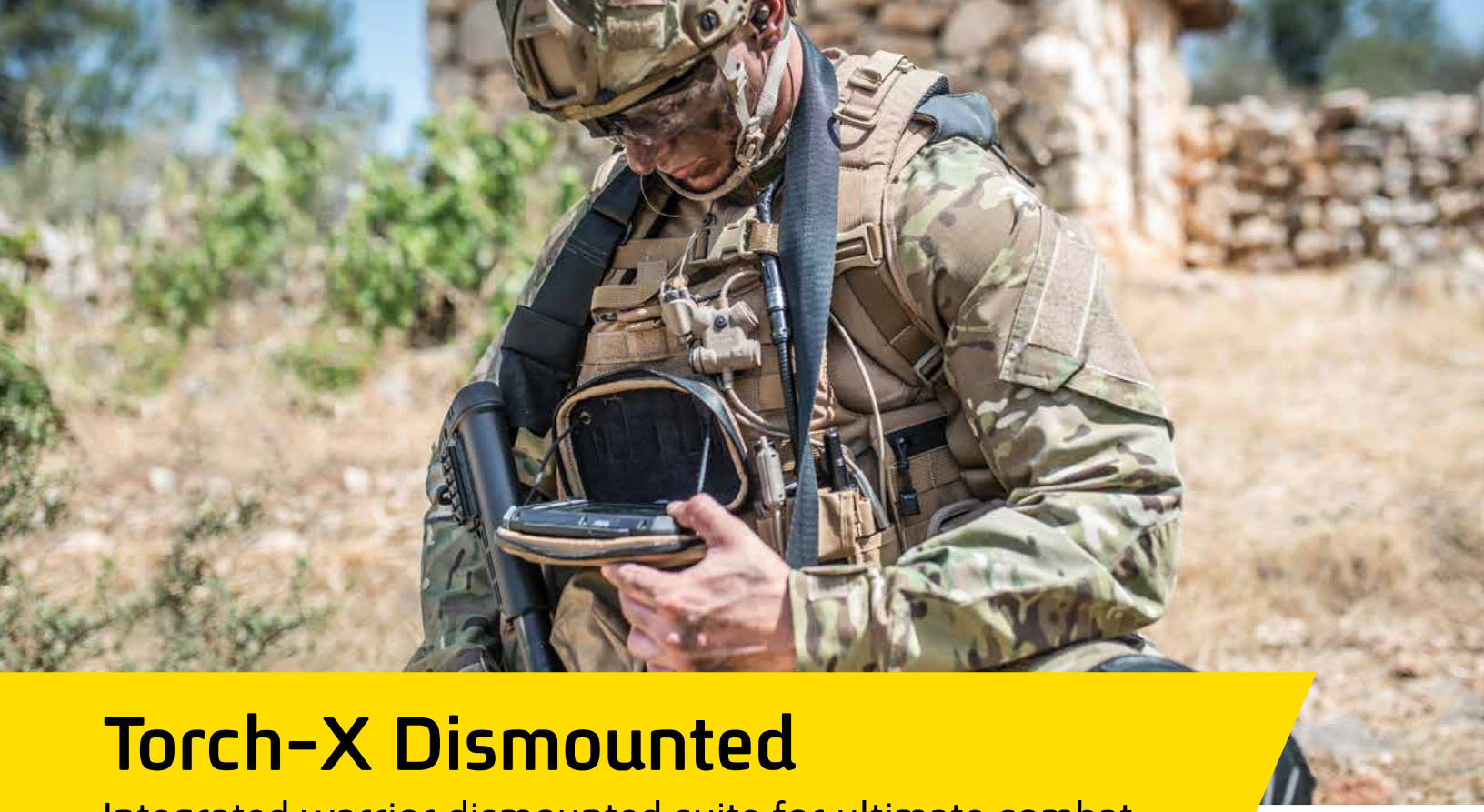
Torch-X™ Dismounted

Integrated warrior dismounted suite for ultimate combat effectiveness in multi-domain operations

Elbit Systems™
C4I and Cyber



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Strategic and operational need

Combat effectiveness and survivability of dismounted forces in the modern battlespace requires real-time situational awareness and seamless integrated networked communications. Integration of "on soldier" IoT equipment (weapons, sensors) and integration of soldier to network provides the soldier with multi-domain networked sensors and effectors capabilities.

Solution overview

Torch-X Dismounted is an advanced networked solution that enhances combat effectiveness and survivability of dismounted close combatants. The warrior suite comprises integrated hardware components, C^4I applications and an advanced Load Carriage System developed by Elbit Systems. The solution improves soldier lethality and survivability by integrating the soldiers' sensors and effectors to the network. The connected soldier can use all sensors and effectors that are connected to the network, dramatically shortening the sensor-to-shooter loop.

Designed to meet the challenges of multi-domain warfare, Torch-X Dismounted delivers real-time situational awareness with automatic data dissemination based on hierarchy and geography. The solution enhances capabilities for all members of the platoon, including Blue Force Tracking, enemy (red) tracking, reports, mission planning, navigation, terrain analysis, augmented reality and 3D visualization.

Soldier-centric integrated system

Torch-X Dismounted includes advanced C^2 applications, personal network radios, mobile computing devices, tracking devices, augmented reality display and sensors. With a seamless integration approach, the solution significantly improves soldier effectiveness and survivability. Torch-X Dismounted uses an optimal ergonomic and bio-mechanical design, combined with an advanced mechanism for ideal weight distribution, stabilization and tight fit. The suite features a modular advanced load carriage and protective measures, enhancing maneuverability and combat effectiveness on the battlefield, including full amour protection according to NIJ 0101.06, level IV.

AI-based decision support

Torch-X Dismounted features decision support tools to reduce the soldier's cognitive load. These tools recommend navigation routes, observation posts and CASEVAC routes. Torch-X Dismounted automatically collects and stores the soldier's physiological data and alerts the soldier and chain of command when a soldier is approaching the physiological combat effectiveness threshold.

Operation of manned and unmanned systems

Torch-X Dismounted seamlessly supports integration and operations of unmanned systems along with human soldiers. Soldiers can use Torch-X Dismounted to task UGVs and UASs. The system autonomously directs the optimal networked effector/s to accomplish the task.

User experience

Torch-X Dismounted is built for the dismounted combat environment, from the comfort of the Load Carriage System to minimizing the required cognitive load. Using the most advanced augmented reality technologies, Torch-X Dismounted presents actionable, context-aware data allowing the soldier to focus on the combat activities in the battlefield.

Open architecture

Based on Elbit Systems C^5ISR service platform, Torch-X Dismounted is designed as an open architecture "evergreen" ecosystem that can accommodate third party applications and provide the development environment for future growth and requirements. The system supports common interoperability standards and can be integrated to multiple IoT soldier devices, sensors, effectors, target acquisition devices and communications networks.

Modular and scalable

Torch-X Dismounted components can be tailored to the needs of all soldier types, including commanders, team leaders, forward observers, snipers, special weapons operators and riflemen.

Security

Torch-X Dismounted is a secured battle management system, designed and developed as a secured system for all echelons of the ground forces. The system is accredited by the world's leading intelligence alliances and compliant with all major security standards. Torch-X Dismounted is penetration tested on a regular basis and updated to withstand new emerging cyber security threats.

Safety

To enhance the dismounted soldiers' safety Torch-X includes advanced NIJ 0101.06, level IV armor protection including hard and soft ballistics. The lightweight and ergonomic design provides an optimal balance between comfort and operational performance.

Soldier-centric integrated system with advanced networked components

RAPTOR™

Compact, rugged, all-in-one tactical wearable computing unit.

SmartEye

Smart soldier glasses for augmented situational awareness.

E-LynX™ Soldier Radio

A powerful SDR personal radio, with no GPS reliance for network services. The IP radio offers ad-hoc networking capabilities including multi-hop services for voice and data.

Load Carriage and Protection (LCP)

Enhanced soldier mobility, comprised of concealed armor protection, an advanced load carriage vest and pouches and a hydration system.

HattoriX-M

Man-packed CAT-1 Passive and Laser target acquisition system.

SmartSight

See-through augmented reality digital add-on for day-sights to enhance situational awareness.

Torch-X Dismounted App

Integrated warrior combat networked solution for enhanced combat effectiveness and survivability of special forces and infantry across all echelons.

Smart WristView

A compact computer and display, worn conveniently with a strap on the wrist or elsewhere, serving as a powerful tactical device for the dismounted soldier.

SmarTrack

Soldier wearable reliable location tracking, data Link and navigation for GPS denied environments.

SmartNVG

Helmet-mountable navigation and C^2 headup display add-on for night vision goggles, providing tactical augmented reality.

TORCH-X RAS

An autonomous, robust, lightweight, multi-mission tactical support vehicle with high mobility and all-terrain maneuverability.

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Key Features

- Real-time situational picture
- AI-based decision support tools
- Support for man / unmanned teaming
- Supports numerous interoperability standards
- Seamless integration with IoT devices
- Navigation and target acquisition in a GPS denied environment
- Augmented situation awareness picture
- Enhanced maneuverability and effectiveness using advanced ergonomic and modular LCP

Key Benefits

- Enhances combat effectiveness and survivability
- Modular and scalable
- Simple and intuitive user interface
- Battle-proven, secure and safe
- Operation in a GPS denied environment
- Seamless target handoff

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